

Letter from Alexander Graham Bell to Alexander Melville Bell, April 1874, with transcript

Salem — Saturday, April — 1874. Dear Papa,

I have been experimenting with an instrument called the Phonautograph at the Instit. of Technol.

It consists of a cone of wood with a thin membrane stretched across the apex. To the centre of this membrane is fastened a long slip of thin wood — so that the membrane cannot vibrate unless accompanied by the wood. If you sing into the cone the membrane vibrates — the wood vibrates — and a bristle fastened to its end scratches some lamp-black off from a smoked glass. If the glass is pulled rapidly away the bristle as it vibrates backwards & forwards makes a sinuous line on the glass. It is found that different vowel-sounds have different kinds of curves.

I sang all of the following vowels and obtained some most beautiful curves.

Mr. Maury at the Institute kindly varnished the glasses for me so that I could take them home and study the forms.— I went up yesterday to a photographers to see whether I could not get a & the corresponding wides. All the vocal consonants also were sung. 2 paper copy of some of the curves for you. The glasses are too light to form good negatives — Nevertheless I think you can make out the curves pretty well in the enclosed specimens. If you wish to bring out the details examine them under a microscope. These curves resulted from singing on the same pitch and with the same force. I send a copy of the “Transcript” containing a notice of the Lecture. As it is the only copy I could get please preserve it for me.

All well. I trust that all are well at home too.

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In haste Your affectionate son Aleck.